

PATENT

Atty. Dkt. No. ATT-029PUS (ATT/2000-0575A)

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-17 (Canceled)

18. (Currently amended) ~~The method according to claim 17, further including~~
A method for controlling admission of new bandwidth reservation in an WDM optical ring network, comprising:

receiving a bandwidth request for a node source-destination pair;

determining whether there is sufficient network capacity for the bandwidth request;

updating the number of credits per frame to be assigned to input-output pairs whenever the bandwidth is requested and/or previously assigned bandwidth is released;

renewing credits by loading queue counters to specified numbers at the beginning of each frame; and

reserving time slots available within a frame via a control channel if the queue counters are positive, and decrementing the corresponding queue counter whenever the reservation is made; and

assigning $a_{ij} > 0$ time slots to node source-destination pair (i, j), $1 \leq i, j \leq N$, within a frame of length $\leq F_{\max}$, if the conditions expressed as

$$W \cdot \left(\sum_i a_{ii} + \sum_k a_{kj} \right) + \sum_{\substack{k,l \\ k \rightarrow i \rightarrow l}} a_{kl} \leq F_{\max} \cdot$$

are satisfied, where W represents the number of

wavelengths in the composite packet, k, l, $k \rightarrow i \rightarrow l$ are nodes such that node k transmits packets to node l over node i, and a_{ii} , a_{kj} , and a_{kl} represent respective time slots assigned to the node source-destination pair.

PATENT

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19. (Original) The method according to claim 18, further including determining whether there is sufficient network capacity for bandwidth request Δa_{ij} , by determining whether conditions $W \cdot (s'_k + D'_k) + I'_k \leq F_{\max}$, $1 \leq k \leq N$ are satisfied, where:

$$a'_{ij} = a_{ij} + \Delta a_{ij}, \quad s'_i = s_i + \Delta a_{ij}, \quad d'_j = d_i + \Delta a_{ij},$$

$$a'_{kl} = a_{kl}, \quad s'_k = s_k, \quad d'_l = d_l, \quad 1 \leq k, l \leq N, k \neq i, l \neq j,$$

$$I'_k = \begin{cases} l_k + \Delta a_{ij} & : i \rightarrow k \rightarrow j \\ l_k & : \text{otherwise} \end{cases}$$

$$D'_k = \begin{cases} \max(D_k, d'_j) & : a'_{ij} > 0 \\ D_k & : \text{otherwise} \end{cases}$$

Claims 20-26 (Canceled)